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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 10/802,958

Filing Date: March 17, 2004

Appellant(s): PFLEGER ET AL.

John F. Conroy
Reg. No. 45,485
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed October 3, 2007 appealing from the Office action mailed July 3, 2007.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct. The amendments after final were not entered.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

A substantially correct copy of appealed claims 29-52 appear on pages 12-15 of the Appendix to the appellant's brief. The minor errors are as follows:

Claims 42-45 and 47-50 begin with "article of claim 0". This is obviously incorrect. In prior versions of the claims, all of these claims began with "article of claim 41".

Please note the claims presented in the appendix are not in the form in which they were rejected in the Final Rejection Office Action mailed July 3, 2007. The claims presented in the appendix include amendments after final that were not entered. These changes include, but are not limited to: Claims 29, 38-39 and 50-51 – "rank" to "ranking"; Claims 33-34 and 45-46 – "ranking" to "changing the ranking of"; and Claim 41 – "operable to" to "configured to".

(8) Evidence Relied Upon

Applicant's Specification, pages 4-5, as filed on March 17, 2004

Barrett et al., U.S. PGPub. No. 2003/0135490

Whitman et al., U.S. Patent No. 6,772,150

Conklin et al., U.S. Patent No. 6,363,378

Holt et al., U.S. Patent No. 6,601,061

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 41-52 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The machine-readable media includes non-statutory subject matter. While "machine-readable media" is not specifically defined, it appears to be the same as "computer-readable media". The specification on pages 4-5 defines a computer readable medium to include non-statutory matter like transmission media. See MPEP § 2106-2106.02. Accordingly, Claims 41-52 contain non-statutory subject matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29-30, 33-42 and 45-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barrett et al., U.S. PGPub. No. 2003/0135490 (hereinafter Barrett) and in view of Whitman et al., U.S. Patent No. 6,772,150 (hereinafter Whitman).

As for Claims 29 and 41, Barrett teaches:

identifying user interaction with a first document in a result set that is responsive to the search query (See e.g. Barrett – paragraphs [0010-0013]);
...changing a ranking of a popularity of the first document based at least in part on the user interaction with the first document (See e.g. Barrett Claims 1-3 and paragraph [0004-0005])...and

making the rank of the popularity of the first document available for responding to a subsequent search query (See e.g. Barrett - Claim 6 and paragraphs [0010-0012]).

Barrett adjust the ranking of documents based on a variety of criteria including time and clicks. Barrett does not specifically use query breadth. However, Whitman teaches:

estimating a breadth of a search query (See e.g. Whitman - col. 5, lines 48-57); identifying user interaction with a first document in a result set that is responsive to the search query (See e.g. Whitman - col. 2, lines 30-38 and col. 3, lines 60-67); ... the breadth of the search query, wherein an amount of the change in the ranking of the popularity decreases with increased breadth of the search query (See e.g. Whitman - col. 2, lines 26-40 and col. 12, lines 39-46). Whitman also makes that information available for future use (See e.g. Whitman - col. 2, lines 26-40 and col. 12, lines 39-46).

Barrett and Whitman are from the analogous art of improving search results. It would have been obvious to one of ordinary skill in the art at the time the invention was made having the teachings of Barrett and Whitman to have combined Barrett and Whitman. The motivation to combine Barrett and Whitman comes from the desire to improve the relevance of search results. Both track use and clicks order to provide the most relevant and useful results at the top of the search result sets.

As for Claims 30 and 42, Barrett as modified by Whitman teaches parent Claims 29 and 41. Whitman also teaches wherein estimating the breadth of the search query comprises estimating the breadth based on a total number of documents in a result set that is responsive to the search query (See e.g. Whitman - col. 2, lines 26-40 and col. 12, lines 39-46 and Claim 15).

As for Claims 33 and 45, Barrett as modified by Whitman teaches parent Claims 29 and 41. Whitman also teaches wherein ranking the popularity of the first document comprises weighting the user interaction with the first document based on the breadth of the search query (See e.g. Whitman – col. 11, lines 35-56).

As for Claims 34 and 42, Barrett as modified by Whitman teaches parent Claims 29, 33, 41 and 45. Whitman and Barrett both also teach wherein ranking the popularity of the first document further comprises adding the weighted user interaction to a popularity database configured to store measures of a popularity of documents (See e.g. Whitman – col. 2, lines 24-40 and Barrett – Claim 6 and paragraph [0041]).

As for Claims 35 and 47, Barrett as modified by Whitman teaches parent Claims 29 and 41. Whitman and Barrett both also teach wherein identifying user interaction with the first document comprises determining a click count for the first document (See e.g. Whitman – col. 2, lines 24-40 and col. 11, lines 35-56 and Barrett – paragraph [0041]).

As for Claims 36 and 48, Barrett as modified by Whitman teaches parent Claims 29 and 41. Whitman also teaches wherein identifying user interaction with the first document comprises determining a click-through ratio for the first document (See e.g. Whitman – col. 3, lines 60-64).

As for Claims 37 and 49, Barrett as modified by Whitman teaches parent Claims 29 and 41. Barrett also teaches wherein identifying the user interaction with the first document comprises identifying the user interaction independent of a search query (See e.g. Barrett – paragraph [0040] – time of day or user type or region considered to adjust ranking to improve results).

As for Claims 38 and 50, Barrett as modified by Whitman teaches parent Claims 29 and 41. Barrett also teaches further comprising responding to a subsequent search query based at least in part on the rank of the popularity of the first document (See e.g. Barrett – paragraphs [0004] and [0011]).

As for Claims 39 and 51, Barrett as modified by Whitman teaches parent Claims 29, 38, 41 and 50. Barrett also teaches wherein responding to the subsequent search query comprises adjusting a ranking of documents in the response to the subsequent search query based at least in part on the rank of the popularity of the first document (See e.g. Barrett – paragraphs [0004] and [0011]).

As for Claims 40 and 52, Barrett as modified by Whitman teaches parent Claims 29 and 41. Barrett also teaches wherein changing the ranking of the popularity of the first document comprising increasing the ranking of the popularity of the first document (See e.g. Barrett – paragraphs [0013] – “the results users wanted are rising to the top” and [0036]).

Claims 31 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barrett in view of Whitman as applied above and in further view of Conklin et al., U.S. Patent No. 6,363,378 (hereinafter Conklin).

As for Claims 31 and 43, Barrett as modified by Whitman teaches parent Claims 29 and 41. Barrett does not expressly look at the drop-off rate of relevance. However, Conklin teaches wherein estimating the breadth of the search query comprises estimating the breadth of the search query based on differences in relevances of documents in the result set (See e.g. Figure 5 and col. 9, line 61- col. 10, lines 21).

Barrett and Conklin are from the analogous art of improving search results. It would have been obvious to one of ordinary skill in the art at the time the invention was made having the teachings of Barrett and Conklin to have combined Barrett and Conklin. The motivation to combine Barrett and Conklin comes from the desire to improve the relevance of search results. Both track use and clicks order to provide the most relevant and useful results at the top of the search result sets. Conklin acknowledges that a drop-off in relevancy decreases the chances that the document will be the one the user wants.

Claims 32 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barrett in view of Whitman as applied above and in further view of Holt et al., U.S. Patent No. 6,601,061 (hereinafter Holt).

As for Claims 32 and 44, Barrett as modified by Whitman teaches parent Claims 29 and 41. Barrett does not specifically consider the retrieval rate. However, Holt teaches wherein estimating the breadth of the search query comprises comparing rates at which the documents in the result set are retrieved (See e.g. col. 7, line 60- col. 8, line 6 – response time used in ranking).

Barrett and Holt are from the analogous art of improving search results. It would have been obvious to one of ordinary skill in the art at the time the invention was made having the teachings of Barrett and Holt to have combined Barrett and Holt. The motivation to combine Barrett and Holt comes from the desire to improve the relevance of search results. Both track use and clicks order to provide the most relevant and useful results at the top of the search result sets. Holt adds the consideration of availability and speed of resources help improve the search results.

(10) Response to Argument

Rejection under 35 U.S.C. 101

The Examiner apologizes for any confusion of the placement of the statement about "operable to" in the Final Rejection mailed July 3, 2007. It was included under the 101 as an additional statement not as the primary basis of the 101 rejection. The issue with "operable to" is that it is optional language that does not require the occurrence of the steps only the capability (See MPEP § 2111.04). The Examiner suggested the

change to "configured to" because it is corresponding terminology that does require that the steps actually occur. It would have been more clear to place to this suggestion in a separate 112(1st paragraph) rejection or in the interpretation of the claims with the prior art rejection. Claim 41 only claims an article comprising one or more machine-readable media storing instructions with the capability to perform the steps, which would allow for a broad interpretation and a rejection based any computer-readable medium or computer. The Examiner chose to suggest the change and give Claim 41 language more weight than necessary. The prior art rejection was based on what the Examiner interpreted the claims intent to be, which basically replaced "operable to" with "configured to". Applicant was willing to make this change after final but the change did not materially improve the claims since the 101 rejection remained and the Examiner had afforded the extra weight to the claims already in preparing the prior art rejection.

The real 101 rejection is based on a definition in the specification that includes non-statutory material. Claim 41 is an "article comprising one or more machine-readable media". The Examiner interpreted "machine-readable media" to be the "computer-readable media" defined in the specification since "machine-readable media" was not specifically defined. Applicant did not dispute this interpretation and indeed based the argument on appeal on that definition. Signals and transmission media are non-statutory subject matter and cannot be patented. See MPEP § 2106-2106.02 and *In re Nuitjen*, Docket no. 2006-1371 (Fed. Cir. Sept. 20, 2007) (slip. op. at 18). Applicant's specification, on pages 4-5, defines a computer-readable media to include

non-statutory matter like transmission media. The Applicant argues that the definition includes two classes of media and therefore since the claim says "storing instructions", it should be statutory. Applicant's specification does not clearly support the argument that there are two classes defined separately enough to be the basis to overcome a 101 non-statutory rejection. The specification states:

Such processors include, or may be in communication with, media, for example computer-readable media, which stores instructions that, when executed by the processor, cause the processor to perform the steps described herein. Embodiments of computer-readable media include, but are not limited to, an electronic, optical, magnetic, or other storage or transmission device capable of providing a processor, such as the processor 110 of client 102a, with computer-readable instructions. Other examples of suitable media include, but are not limited to, a floppy disk, CD-ROM, DVD, magnetic disk, memory chip, ROM, RAM, an ASIC, a configured processor, all optical media, all magnetic tape or other magnetic media, or any other medium from which a computer processor can read instructions. Also, various other forms of computer-readable media may transmit or carry instructions to a computer, including a router, private or public network, or other transmission device or channel, both wired and wireless (See Applicant's Specification pages 4-5, as filed on March 17, 2004).

This definition does not create two distinct classes – one for storing and one for transmitting as Applicant's argues. Storing instructions is not clearly addressed in a way that would completely separate it from transmission. Computer readable media is introduced in a way that describes all computer-readable media store instructions by stating "computer-readable media, which stores instructions". The first part of the definition of computer-readable media states "computer-readable media include, but are not limited to, an electronic, optical, magnetic, or other storage or transmission device". This definition does not create only two distinct classes. The second portion of the definition gives examples of suitable media. The first sentence in these examples ends

with "or any other medium from which a computer processor can read instructions".

The reading of instruction is addressed, not the storing. The second sentence does include "forms of computer-readable media may transmit or carry instructions".

However, transmission is not separated from storage since the description of computer-readable media began with "computer-readable media, which stores instructions". Any small distinction that might be made by an interpretation of this definition does not clearly differentiate the statutory and non-statutory media in a way that would make Claims 41-52 statutory under 35 U.S.C. 101. Accordingly, Claims 41-52 include non-statutory subject matter.

Rejection under 35 U.S.C. 103

Regarding the prior art rejections, Applicant argues only the independent Claims 29 and 41 in the appeal. Therefore, the Examiner's response will also only address those claims and should not be taken as withdrawing the rejections to the dependent claims.

Applicant argues that "one of ordinary skill would not change a ranking of a popularity of a document such that the amount of the change in the ranking decreases with increased breadth of a search query having a responsive result set that includes the document" even if Barrett and Whitman were combined. The Examiner disagrees because Barrett teaches the overall system of the claimed invention and Whitman adds a teaching that considers query breadth. Barrett does not expressly teach using query

breadth to adjust ranking. Barrett does however use a variety of criteria to adjust rankings (See e.g. Barrett paragraphs [0011-0013] and [0041-0043]). Barrett also acknowledges that it can be combined with other ranking factors (See e.g. Barrett - paragraph [0009]). Whitman teaches one such other ranking factor. Whitman adjusts the score for a search based on the number of hits returned (See e.g. Whitman - col. 5, lines 33-44 and 52-60 and col. 2, lines 24-40). Overall, Whitman uses the information to suggest previous search terms which can assist the user in finding useful results. The important element used from Whitman in this 103 rejection is the acknowledgement of the fact that the number of results returned for a particular query impacts its usefulness (See e.g. Whitman - col. 5, lines 33-44 and 52-60). Where the number of results is high, the query should be viewed as less useful to the user (See e.g. Whitman - col. 5, lines 33-44 and 52-60). Whitman decreases the score for the query with increased breadth of the query (See e.g. Whitman - col. 5, lines 33-44 and 52-60). Whitman tracks queries along with scores based in part on the number of query results in a database (See e.g. Whitman – col. 5, lines 64-67). With this knowledge in a database, Barrett can use that information and include the consideration of query breadth along with the myriad of other criteria that can be used to re-rank query results. The combination of Barrett and Whitman teach the elements of Claims 29 and 41, including changing “a ranking of a popularity of a document such that the amount of the change in the ranking decreases with increased breadth of a search query having a responsive result set that includes the document”.

Claim 29 is a method. Claim 41 is an article that performs the same method. Since the bodies of the claims are the same, the substance of the prior art arguments presented applies to both equally.

Stepping through the requirements of Claims 29 and 41, the first step is “estimating query breadth”. Whitman teaches this by counting the number of matches found in response to a search (See e.g. Whitman - col. 2, lines 30-35 and col. 5, lines 48-57).

The second step is “identifying user interaction with a first document in a result set that is responsive to the search query”. Barrett teaches this in paragraphs [0010-0013], especially in paragraph [0011], which presents a list of the user interactions that are tracked by the system. The Applicant does not dispute this element and in fact agrees that Barrett teaches “a systems in which user interaction with a search results set is collected” (See Applicant’s Appeal Brief Arguments pages 6-7).

The third step is “changing a ranking of a popularity of the first document based at least in part on the user interaction with the first document and the breadth of the search query, wherein an amount of the change in the ranking of the popularity decreases with increased breadth of the search query”. Barrett teaches changing the ranking based on various criteria including user interaction (See e.g. Barrett Claims 1-3 and paragraphs [0004-0005] and [0011-0013], but not query breadth. Barrett allows for the combination of its system with other ranking factors (See e.g. Barrett - paragraph [0009]). However, Whitman teaches adjusting a score based on query breadth and the amount of the change decreases with increased breadth of the search query (See e.g.

Whitman - col. 3, lines 60-67 and col. 12, lines 39-46 – small number of hits increases score and therefore ranking and chance for display and col. 5, lines 48-57 – decrease weight given to queries with a high number of hits/matches, increase weight when number of results is small).

The fourth step is “making the [rank] ranking of the popularity of the first document available for responding to a subsequent search query”. Barrett teaches this when search results are returned to the user based on ranking associated with the index created with the enhanced popularity rankings (See e.g. Barrett - Claim 6 and paragraph [0010-0012]).

As shown in the previous paragraphs, the combination of Barrett and Whitman teach all the limitations of Claims 29 and 41. Barrett and Whitman are from the analogous art of improving search results. It would have been obvious to one of ordinary skill in the art at the time the invention was made having the teachings of Barrett and Whitman to have combined Barrett and Whitman. The motivation to combine Barrett and Whitman comes from the desire to improve the relevance of search results. Both track use and clicks order to provide the most relevant and useful results at the top of the search result sets. Barrett and Whitman have many fundamental elements in common. Some examples of the overlap that makes these references a natural and obvious combination are the following: both use user actions after shown results (See e.g. Barrett – paragraphs [0011-0012] and Whitman -col. 2, lines 33-35 and col. 3, lines 57-67); query log and results log used (See e.g. Barrett – paragraphs [0011-0012] and Whitman – figure 6); time considerations (See e.g. Barrett

– paragraphs [0013-0015] Whitman – col. 4, lines 1-15); both are used with search engines (See e.g. Barrett – paragraph [0010] and Whiteman col. 4, lines 15-25) and both work with ranking results (See e.g. Barrett – paragraphs [0004-0006] and Whitman – col. 7, lines 26-35). For these reasons, it would have been obvious and produce predictable results that would improve search results for one of ordinary skill to have combined Barrett and Whitman to teach Claims 29 and 41.

Accordingly, the combination of Barrett and Whitman teaches all the elements of Claims 29 and 41.

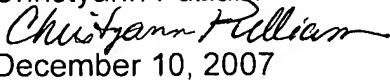
(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Christyann Pulliam

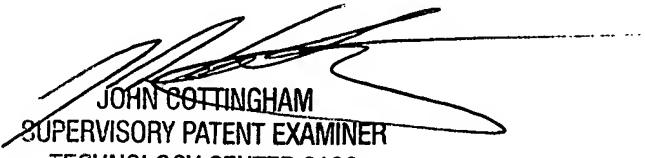

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